By holding and moving the smoking ends of the rags over the face of the bees and blowing the smoke among them, they run helter skelter down amongst the combs far more afraid than hurt. Now he can carry the hive round the garden under his arm without being stung. Whenever the bees are likely to rise they should be dosed again. The bee-keeper will now find he has got the mastery over his bees, and can do what he likes with them. He will be able to drive them out of a hive full of combs into an empty one, and moreover shake them back, or tumble them back, or spoonful them back into the old hive or another, as men take peas from one basket to another. The smoke does not injure the health of the bees, does not stop them from work more than two or three minutes, and the use of it is so simple, easy, and efficacious, that we have no wish to find anything better for stupefying bees."

Hives, their material, size and position ; their covers, boards, supers, ekes and nadirs ; the times and modes of swarming bees artificially ; how to feed them, and how to take the honey ; how to combine separate hives, and how best to preserve them during winter, with many other details of bee-management, will be found so fully and clearly described, and with such good reasons for every step, that we think this work may do much to render profitable beekeeping far more common than it seems to be at present.

A. R. WALLACE

Malacologia del Mar Rosso. Arturo Issel. 8vo. With five lithographed plates. (Pisa, 1869.)

WE have lately read and heard much about that great undertaking, the Suez Canal, and of its being the means of facilitating the commerce of the human race in Europe and India. Something may also be said as to the interchange of the marine fauna of the Mediterranean and Red Sea, which will probably result from this artificial mode of communication. Geology teaches us that these two seas were once (in the post-tertiary or quaternary period) connected by a natural channel ; for several species of shells now inhabiting the Mediterranean, and common there, occur in a fossil state throughout the Isthmus or Desert of Suez. These are :—*Arca Noæ*, *A. lactea*, var. *erythræa*, *Donax trunculus*, *Solecurtus strigilatus*, *Gastrochæna dubia*, *Patella cærulea*, *Calyptræa Chinensis*, *Nassa mutabilis*, *N. costulata*, *Murex trunculus*, var., and *Cypræa annulus*. Now it is a remarkable fact that scarcely any species in a living state are common to the Mediterranean and the Red Sea, even after making every allowance for the range of local variation. Dr. R. A. Philippi, indeed, in the second volume of his admirable work on the Mollusca of the Two Sicilies (published in 1844), gave a list of all the marine shells which he had examined in the collection made by Hemprich and Ehrenberg in the Red Sea ; and of these he identified no less than 75 species as living both in the Mediterranean and the Red Sea. According to him the number of Red Sea species found by Hemprich and Ehrenberg was 408. But it now appears that these explorers collected at Alexandria also on their way home, and that by some carelessness or mischance many of the labels indicating the localities got intermixed ; so that no reliance could be placed on the collection in a geographical point of view when it was examined by Philippi.

The present work gives 574 recent or living species, of which 64 are for the first time described and 34 figured. As might be expected, nearly all are tropical and belong to the Indian Ocean. Besides these, 232 fossil species are enumerated, 25 being described as new to science, and 31 figured. The author collected 191 species on the shore at Suez in the spring of 1865 ; 141 were collected by the Marquis G. M. Arconati in the Gulf of Akaba, as well as at Suez ; public museums and private cabinets at Berlin, Paris, Pisa, Turin, and Genoa furnished additional material ; while the catalogues of Ehrenberg, Rüppel, and Vaillant, with the descriptions and plates of Philippi, Reeve, Sowerby, Kiener, and others, served for comparison and reference. Professor Issel is again gone to Suez for the purpose of continuing this interesting and useful research. His figures are very good, drawn on tinted paper. All general conchologists ought to possess the work.

I may remark that one of the Red Sea species (*Cæcum annulatum*) here stated to inhabit "Aden, Indie occidentali, Irlanda, Inghilterra"—the last two localities being, on the authority of Brown, Forbes and Hanley, and Philip Carpenter—has been only found in Great Britain among the sand from bath-sponges !

It should be known that Mr. M'Andrew dredged for several months last year in the Gulf of Suez, when he made a very extensive collection of Mollusca, including a great number of then undescribed species. I hope he will soon publish his discoveries. No one is more competent to do so.

J. GWYN JEFFREYS

LETTERS TO THE EDITOR

[*The Editor does not hold himself responsible for opinions expressed by his Correspondents. No notice is taken of anonymous communications.*]

The New Natural History Museum

I AM informed that the plan of fitting a museum with cases sealed on the side facing the public galleries, alluded to in last week's NATURE, was suggested by Dr. Hooker, in an article signed "A Metropolitan Naturalist," in the *Gardener's Chronicle* for 1858, p. 749, which also contains many other good suggestions as to the requirements of the museum.

W. H. FLOWER

The "English Cyclopædia"

IN my youth I took in "The Penny Cyclopædia," in my manhood I purchased its progeny, "The English Cyclopædia," and now, in comparative old age, I have acquired two supplementary volumes to the latter ; and I have never had reason to complain of any of these books, until the supplement to the Natural History division appeared a month or two ago. This supplement embraces a period of sixteen years, from 1854 to 1870, during which, probably, more good scientific work has been accomplished than in any preceding half-century. Many subjects on which I expected to find important articles are passed over without a reference, and others are, as I shall endeavour to show, treated of in a most imperfect and unsatisfactory manner.

I looked in vain for articles on (1) *Acclimatisation*, (2) *Ants*, (on which Bates, Lespes, Lincecum, Norton, F. Smith, Sumichrast, and many others have written since 1854), (3) *Axolotl* (whose remarkable metamorphoses have been studied by Dumeril and others), (4) *Cephalopoda* (on which much has been written since the Cyclopædia article appeared, when the Hectocotylus had not become a subject of discussion), (5) *Darwinism*, (6) *Deep-sea Dredging*, (7) *Dimorphism in the Animal Kingdom*, (8) *Eophyton*, (9) *Eozoon*, (10) *Eugerion* (a fossil insect that from its puzzling form has been compared with the Archæopteryx), (11) *Fungous Origin of Diseases*, the cholera-fungus, scarlatina-fungus, ague-fungus, the fungi in skin-diseases, &c., and (12) *Hyalonema* (on which several articles holding the most opposite views have lately appeared) ; (13) *Hybridity in animals and plants* (on which Broca, Masters and others have written elaborate works, and on which, as in the case of rabbits and hares, many remarkable experiments have been made), (14) *Mimicry in the Animal Kingdom*, (15) *Monera*, (16) *Ornithoscelida*, (17) *Parthenogenesis* (on which, during the last sixteen years, there have been published Siebold's "True Parthenogenesis in Lepidoptera and Bees," Owen "On Parthenogenesis," Leuckart "On the recognition of Parthenogenesis in Insects," De Quatrefages' "Metamorphoses of Man and the lower Animals," and the contributions of Huxley and Lubbock to Transactions of the Linnean Society and to the Philosophical

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Transactions, besides numerous articles on special cases of Parthenogenesis in certain gall-flies, solitary wasps, spiders, and mites), (18) *Protista*, (19) *Protoplasm*, (20) *Rhizocrinus*, which sent forth our late deep-sea dredging expeditions, (21) *Sauroids* and *Sauropsida*, (22) *Sphegidæ* (insects whose marvellous instincts have been described by Lespes and other observers), and (23) *Vivisection* and its results.

A few of these subjects are discussed in articles devoted to more general matters; for example, (8) is noticed, but not figured or even systematically described, under *Foraminifera*, *Laurentian Formations*, and *Palæontology*, and (9) is referred to in the last-named article; (12) is mentioned in *Spongiadæ*, and more fully described, but not figured, in *Alcyonaria*; (17) is alluded to, in so far as the researches of Huxley and Lubbock go, in the article *Aphis*; (19) is noticed under *Cells*; and (21) *Sauropsida* is defined in the article on *Birds*.

Cross references, which, like illustrations, have been far too scantily employed in these volumes, would have partly removed this source of complaint, as for example *Sauropsida* [Birds, E.C.S.]

On the following subjects our knowledge has not been brought up to what can with every allowance, be called a recent date:—(1) *Aerolites*, latest reference 1861, and no bibliography; (2) *Alca*, latest reference 1861; (3) *Annelida* contains no reference to Claparède's appalling criticism on De Quatrefages' researches; (4) *Archæopteryx* has no reference to Huxley's papers; (4) *Blood* contains no reference to late researches on the structure of the corpuscles, to the occurrence of *Protagon* in them, or to the remarkable colour-test for blood, discovered by Dr. Day of Geelong, which has succeeded in detecting old blood spots, when even spectrum analysis in the hands of its great master, Mr. Sorby, has failed; and Dr. Richardson is stated to hold the opinion that the fibrin is held, in solution in the body by ammonia, although it is well known that, with a moral courage which cannot be sufficiently commended, he publicly (at a meeting of the British Association some years ago) renounced that opinion as soon as he found it was untenable; (5) *Birds of Paradise* would have been a more satisfactory article if it had had the benefit of Mr. Wallace's supervision; (6) *Foraminifera* would have been all the better if the writer had been acquainted with Häckel's splendid monograph on the *Radiolaria*; (7) *Nervous System* is perhaps the most imperfect article in the whole volume. It contains no reference to the labours of Gratiolet, Lockart Clarke, Brown-Sequard, Claude Bernard, Robin, Philippeaux, or Vulpian on the minute structure and the physiology of the nerves, while the chemistry of the brain is discussed without a reference to Protagon or Neurine. The synthetical formation of the latter is surely of sufficient interest to deserve notice.

Regard for the value of space in your columns alone prevents me from prolonging the list of imperfect articles.

The English Cyclopædia is, as I presume everyone will admit, intended for "all sorts and conditions of men," for "women labouring with child" (if we use the phrase in the same sense as a German governess, who is said to have expatiated to a popular bishop on the comprehensiveness of a church-service that did not even overlook the daily cares of those who devoted themselves to the duties of early education), and even for children; at all events I read the "Penny" with great pleasure as a boy. Hence it should be a source of knowledge from which we might expect to find information in all cases of ordinary difficulty. To decide how far this assumption is correct, I put it to the test in the following way:—I read Huxley's splendid address "On the recent progress of Palæontology" which lately appeared in your columns, and the "Report on a Close Time for Birds" in the last volume of the British Association Reports. I freely admit that I am not learned in Natural History; but as an old country doctor, I probably picked up quite as much knowledge in my youth, as the average class of "Cyclopædia" readers. None of the following terms taken from Huxley's address are to be found either in the Index to the Cyclopædia, or in the Supplement:—*Amphycion*, *Anchitherium*, *Anthracosaurus*, *Artiodactyle*, *Cainotherium*, *Chœropotamus*, *Coccoliths*, *Coccospheres*, *Compsognathus*, *Coryphodon*, *Dicynodes*, *Didelphia*, *Dinosauria*, *Discoliths*, *Elasmobranchs*, *Eophyton*, *Eozoon*, *Evolution*, *Galeosaurus*, *Globigerinæ*, *Hipparion*, *Hipparitherium*, *Homotaxis*, *Hyænictis*, *Hyenoartos*, *Hyopotamus*, *Hyracotherium*, *Ictitherium*, *Mesopithecus*, *Microlestes*, *Monadelphia*, *Omalodotherium*, *Ornithodelphia*, *Ornithoscelida*, *Orycteropus*, *Perissodactyle*, *Phaseolotherium*, *Pliolophus*, *Pterosauria*, *Sauropsida*, *Stereognathus*, *Typotherium*.

I will not go further into the "Close Time" Report than to state that I learn from it the important fact that owls eat, *inter alia*, "*Arvicolæ*, *Crociduræ*, *Crossopi*, *Hypudæi*, *Sorices*, shrews and voles." I look in vain for all these inviting edibles, and I find only *Hypudæus* in the Cyclopædia, and what benefit do I derive from my search? Only that *Hypudæus* is sometimes spelt *Hipudæus*. A learned friend, who is ever ready and able to remove difficulties from the paths of his weaker brethren—the genial guardian of Kent's Cavern—suggested that it was something in the mouse or rat line, and so I turned to *Muridæ*, where I found the required information regarding that animal and the voles.

It is not for the purpose of depreciating the Supplement to the English Cyclopædia that I have noticed the above omissions and deficiencies, but with the object of pointing out how they may still be remedied. The Supplement has evidently been drawn up without any editorial care. Let a duly-qualified editor obtain a list of *desiderata* from some botanist, geologist, and zoologist of eminence; and let him fix upon the articles that he deems the most important, and give them to qualified writers. Let him attend duly to the compilation of bibliographies of the most important subjects, and let him increase to an enormous extent the amount of cross references. The article *Muridæ*, from which I exhumed *Hypudæus*, would probably yield fifty references.

A few subjects—as birds and hydrozoa—are fairly supplemented. Why should not similar articles be given us on the progress, during the last sixteen years, of our knowledge of the crustaceans, insects, fishes, reptiles, &c.? An additional supplement, such as I have here suggested, would probably not occupy more than 100 pages.

NEMO

South Devon

ADMIRAL MANNERS

ADMIRAL RUSSELL HENRY MANNERS was born in London on the 31st of January, 1800, entered the Royal Naval College the 6th of May, 1813, and embarked March the 6th, 1816, as a volunteer on board the *Minden*, 74, Captain Paterson, in which, after assisting at the bombardment of Algiers, he proceeded to the East Indies, where he served under the flag of Sir Richard King, until nominated midshipman, the 1st of July, 1818, to the *Orlando*, 36, commanded by Captain John Clavell, with whom, in 1819, he returned to England on the *Malabar*, 74. After an intermediate employment on the Channel and West India stations in the *Spartan* and *Pyramus* frigates under Captains William Furlong Wise and Francis Newcombe, he became, the 29th of July, 1822, Acting Lieutenant of the *Tyne*, 26, Captain John Edward Walcot, to which vessel the Admiralty confirmed him the 19th of October following. In May 1823, he rejoined the *Pyramus*, still commanded by Captain Newcombe, under whom he continued until he obtained his promotion on the 16th of August, 1825. His last appointment was on the 21st of October, 1827, to the command of the *Britomart*, 10. The *Britomart* was first employed and intended for the Channel service under the order of the Commander-in-Chief, the Earl of Northesk, at Plymouth. She accompanied the squadron of ships escorting Don Miguel to Lisbon in the early part of 1828. In consequence of the revolution that followed in Portugal on Don Miguel declaring himself absolute, the *Britomart* was stationed at and off Oporto to watch the British interests there. The Constitutional party, failing to restore the Constitution against the usurped position of Don Miguel, the British Government withdrew her Minister from Lisbon, leaving the British interests in the hands of the Consul only, and Capt. Manners was selected to be in readiness to support him in case of need by keeping in sight of signals from Lisbon as long as the safety of the vessel permitted, but not to anchor within any Portuguese port unless absolutely necessary. This involved a long and vigilant cruising off and on the coast for about eight months, and through the whole of the winter. The only

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